Reviewer's report

Title: Neovascular Glaucoma: A Retrospective Review From a Tertiary Center in China

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Reviewer: Paolo Brusini

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The manuscript by Liao and coworkers deals with neovascular glaucoma, and assesses the outcomes of various types of surgical approaches. The paper can be of potential interest, especially considering that it deals with the etiology, diagnosis and management of this severe ocular disease in a country having a diverse culture and healthcare system.

Overall, the study is well done and includes a large cohort of subjects. There are some limits to the study, which have been correctly reported by the authors in the Discussion section.

The authors report a very good success rate obtained without any topical or systemic medication after 1 and 2 years, which is rather surprising. One possible explanation could be due to the definition of neovascular glaucoma, which seems to be rather vague and somewhat debatable, especially considering the inclusion of patients even with signs of neovascularization of the iris and a slight ocular hypertension and not true neovascular glaucoma. The authors should comment on this issue in the text.

There are two other considerations regarding the success rate of trabeculectomy (51.1%), which appears to be very high for this type of glaucoma, in addition to the percentage of complications, which seems to be quite low: i.e. 2.8% of hyphema and 1.4% of tube related complications after GDD are rather unrealistic. These results need to be checked and discussed further with appropriate citations.

Another point which may be worthwhile discussing, considering that it raises an important ethical issue, refers to the management of patients with neovascular glaucoma. The authors state that “the overall management depended not only on surgeon preference but also on insurance cover as well as capacity to pay”. Of course, this problem should be taken into consideration and may significantly orientate the treatment of a patient, however, this cannot lead to a less than adequate treatment. The good results obtained in this study, however, seem to prove that the chosen treatment was effective for most patients.

There are other minor points need that need to be addressed, which include the following:

1) Background, page 3: a short description and definition of neovascular glaucoma should be included.

2) Background, page 3, line 11: “negative” can be added before “prognostic
factors”.
3) Methods, page 5, line 5: “and” can be added before “trabeculectomy “.

4) Methods, page 5, line 6: the use of mitomycin C for trabeculectomy in neovascular glaucoma after anti-VEGF intravitreal injection should be mandatory and not determined by the individual surgeon.

5) Methods, page 5, line 9: “in previous studies” can be added after “described”.

6) Methods, page 5, line 10: when using TSCPC, the laser power should be set to avoid (as opposed to achieving) a “pop”, which is a sign of an excessively high laser energy treatment.

7) Results, page 6, line 13: the prevalence of neovascular glaucoma amongst glaucoma patients appears to be rather high. This may be due to the definition used in this study, as reported above.

8) Results, page 6, line 21: “pseduophakic” should read “pseudophakic”.

9) References, page 12, Ref #15: The first letter of “king khaled” should be capitalized.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.